

### In The Claims

Applicant submits below a complete listing of the current claims, with any insertions indicated by underlining and any deletions indicated by strikeouts and/or double bracketing.

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of the Claims

1. (Currently amended) A An integrated circuit chip including a pump comprising:  
a cavity-(2) formed in an insulating substrate-(1), ~~the~~ a upper portion of the substrate located in the vicinity of the cavity forming a border,  
a conductive layer-(3) covering the inside of the cavity all the way to the border and possibly covering the border,  
a flexible membrane-(6), formed of a conductive material, placed above the cavity and bearing against the border,  
a dielectric layer-(7) covering the conductive layer or the membrane to insulate the portions of the conductive layer and of the membrane which are close to each other,  
~~at least one ventilating duct (4; 10) formed in the insulating substrate which emerges into the cavity through an opening (O1; O2) of the conductive layer, and~~  
terminals of application of a voltage-(V) between the conductive layer and the membrane;  
at least one of the ventilating ducts emerging into the cavity.
2. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, wherein said cavity-(2) has substantially the shape of a cup so that the interval between the conductive layer (3) and the membrane-(6) progressively increases from the border to the bottom of the cavity.
3. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, wherein the membrane-(6) is in an idle state when no voltage-(V) is applied between said terminals, the application of a voltage deforming the membrane by drawing it closer to the conductive layer (3), the suppression of the voltage bringing the membrane back to its idle state.

4. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, ~~comprising wherein~~ a single duct-(4) emerging substantially at the bottom of the cavity.

5. (Currently amended) The ~~pump~~ integrated circuit chip of claim 1, ~~comprising two ducts (4, 10), one cup emerging wherein one duct emerges~~ substantially at the bottom of the cavity, ~~the other one emerging of the pump, and another duct emerges~~ close to the border of the pump.

6. (Currently amended) ~~An~~ The integrated circuit ~~comprising the pump chip~~ of claim 1, wherein the pump being connected to an assembly of ventilating ducts are formed at least in part in the semiconductor substrate of the integrated circuit.

7. (Currently amended) A method for forming a pump in an integrated circuit, which comprises the steps of:

[[ - ]] forming a cavity-(20) in ~~an~~ a first insulating substrate ~~(21) layer~~, the upper portion of the ~~substrate~~ first insulating layer located in the vicinity of the cavity forming a border;

[[ - ]] covering the inside of the cavity all the way to the border and possibly the border with a first conductive layer-(30);

[[ - ]] forming an opening-(03) of the conductive layer emerging into a ventilating duct (31) previously formed in the first insulating substrate ~~layer~~;

[[ - ]] filling the cavity with a sacrificial portion-(32);

[[ - ]] covering the sacrificial portion and the portion of the first conductive layer placed above the border with a ~~first~~ second insulating layer-(33) and with a ~~second insulating~~ conductive layer-(34);

[[ - ]] forming a small opening-(04) in the second conductive layer and in the first insulating layer;

- removing the sacrificial portion; and

[[ - ]] covering the second conductive layer with a ~~second~~ third insulating layer-(35) to close back the opening.

8. (Currently amended) The method of claim 7, wherein the step of forming a cavity (20) in ~~an~~ a first insulating substrate (21) layer comprises the steps of:

[[ - ]] forming insulating pads ~~(23, 24)~~ on a ~~first~~ fourth insulating layer ~~(22)~~;

[[ - ]] covering the ~~first~~ fourth insulating layer and the insulating pads with a ~~second~~ fifth insulating layer (25); and

[[ - ]] performing a chem.-mech. polishing of the ~~second~~ fifth insulating layer to expose the insulating pads, the etch method of the polishing being such that it etches the ~~second~~ fifth insulating layer more than the insulating pads, the insulating pads forming said border.

9. (Currently amended) A method for actuating ~~the~~ a pump of an integrated circuit chip of claim 3, wherein a voltage is applied at regular or irregular intervals between said terminals.

10. (New) The integrated circuit chip of claim 1, comprising a temperature sensor and a control circuit activating more or less rapidly the pump according to a wished temperature.